UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL ENVIRONMENTAL SATELLITE DATA
AND INFORMATION SERVICE
NATIONAL CLIMATIC DATA CENTER
151 PATTON AVE ROOM 120
ASHEVILLE NC 28801-5001

29 April 2013

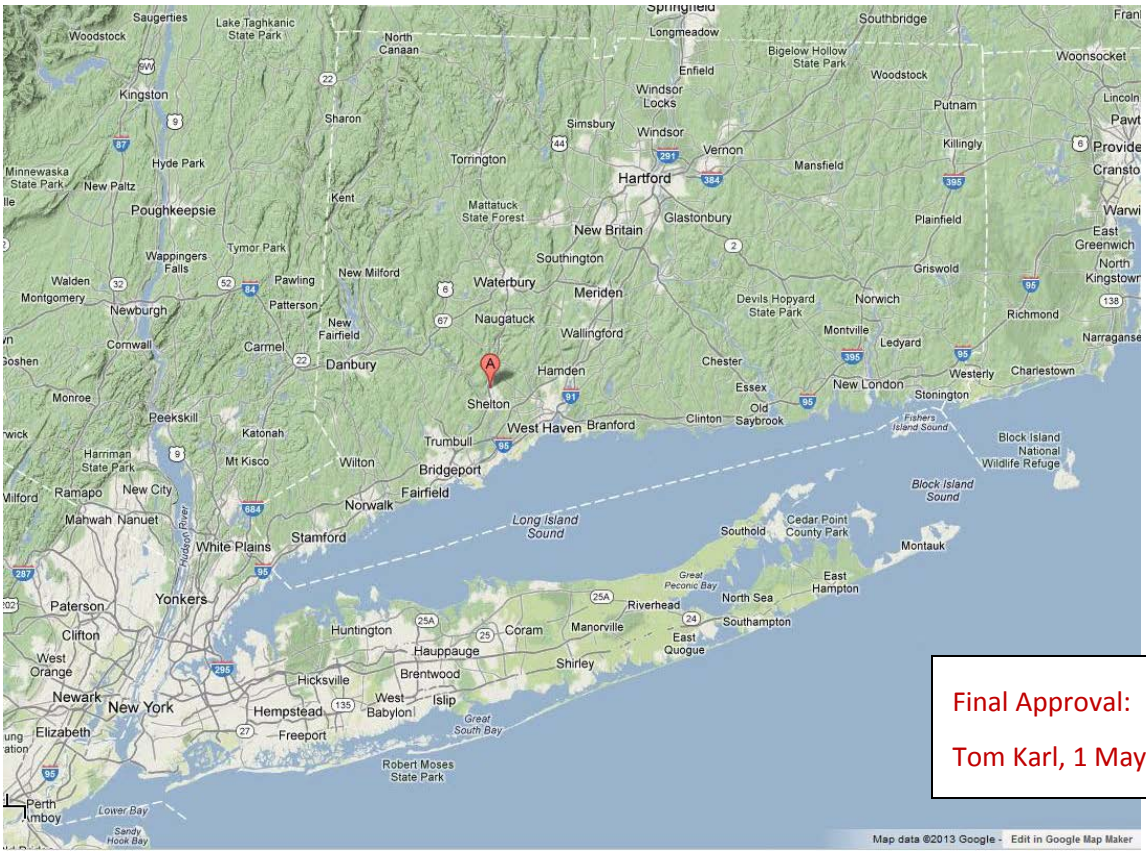
MEMORANDUM

From: Karin Gleason, Climate Monitoring Branch, CSMD, NCDC
To: Thomas R. Karl, Director, NCDC
Subject: SCEC Decision: New record 24-hour snowfall for Connecticut

On 24 April, 2013, the State Climate Extremes Committee (SCEC) convened via teleconference to evaluate the validity of an apparent 24-hour snowfall record for the State of Connecticut. The SCEC examined the 8-9 February 2013 24-hour snowfall total of 36 inches at the Cooperative Observer station in Ansonia, CT (COOP identifier 060128). The SCEC examined several factors surrounding the value (intrinsic and extrinsic validity, methods and practices of observation, and comparison to the accepted record for Connecticut). The SCEC voted unanimously (4-0) to accept the value. ***I request that the NCDC Director approve the SCEC's decision and recognize the 36 inch 24-hour snowfall total which occurred between 7:00am EST on 8 February 2013 and 7:00am EST on 9 February 2013 as the new Connecticut state record for 24-hour snowfall.***

Background and Metadata

Ansonia 1 NE (ANSC3) is located in New Haven County, CT at 41.348979,-73.091269, with an elevation of 153 feet. The Cooperative station number is 060128. Figure 1 shows the location of the site relative to the state of Connecticut and the Tri-State Region.



Final Approval:

Tom Karl, 1 May 2013

Figure 1. Map of Tri-State region with Ansonia, CT denoted by the red "A" pin.

The station began as an institutional site on 1 April 1941 and became an individual site on 1 December 1985. Michael S. Witek has been the observer at this site since that change (nearly 30 years). The observer's reporting time is at 7am EST. The site has a wide open exposure with no significant obstructions which would prohibit an accurate catch of snowfall. Figure 2 shows the area where observations are taken.

Figure 2. Ansonia Cooperative Observer property, where multiple snow measurements were taken on 9 February 2013.

Meteorological / Climatological Feasibility

The 36 inch snowfall recorded at the Ansonia Cooperative station was the result of a powerful blizzard which impacted the Tri-State Region on 8-9 February 2013. When the storm subsided, in excess of 30 inches of snow had been reported at numerous locations across Connecticut. Figure 3 shows a preliminary map of the snowfall distribution for the two-day event. A listing of preliminary snowfall totals for this event is also included in Appendix A. The 36 inch snowfall from ANSC3 was not included in the preliminary listing or map because the data arrived after the products were created. Adding them at a later time could have confused the public due to subsequent snowfall events across the New York, NY

County Warning Area (OKX). The Observing Program Leader at OKX discussed the observation over the phone with the observer, with the observer confirming that no additional snow fell after 7am, only blowing snow was observed. In addition, the observer verified that the measurements were taken in accordance with established NWS Coop guidelines (i.e. multiple measurements taken on the property with the average used). Appendix B documents the B-91 observer form illustrating the snowfall record (B-91) for the month of February 2013 at the Ansonia, CT Cooperative station.

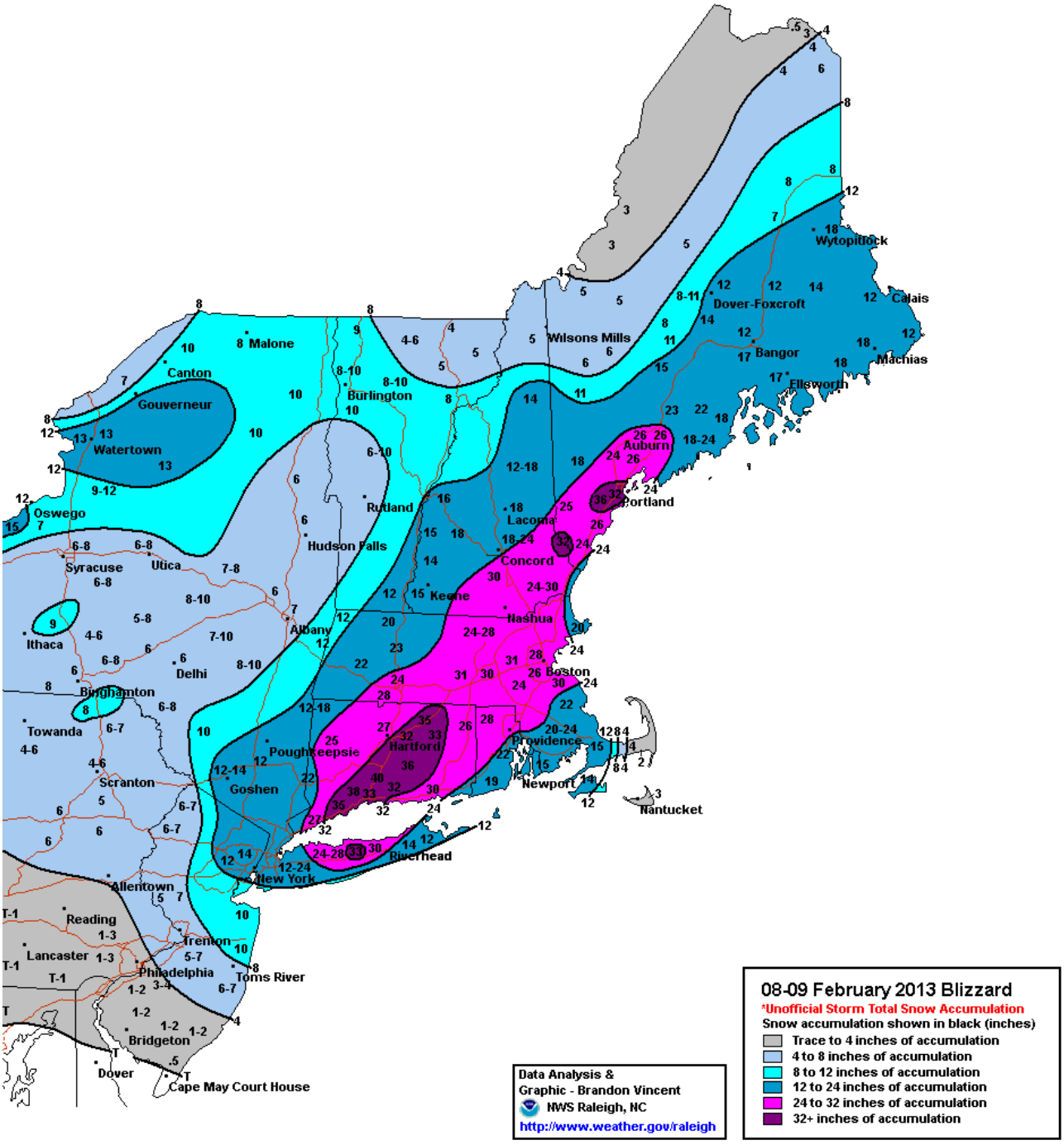


Figure 3. Preliminary snowfall accumulations for the Northeast from the 8-9 February 2013 snow storm.

The observation at ANSC3 is supported by surrounding observations as well as radar (Figure 4), which indicated this event was highly-convective with sustained and heavy snowfall rates. Further adding to the plausibility of this record event, NCDC's GHCN quality control routine (spatial analysis) compared this value to neighboring values from other official reporting sites and validated it.

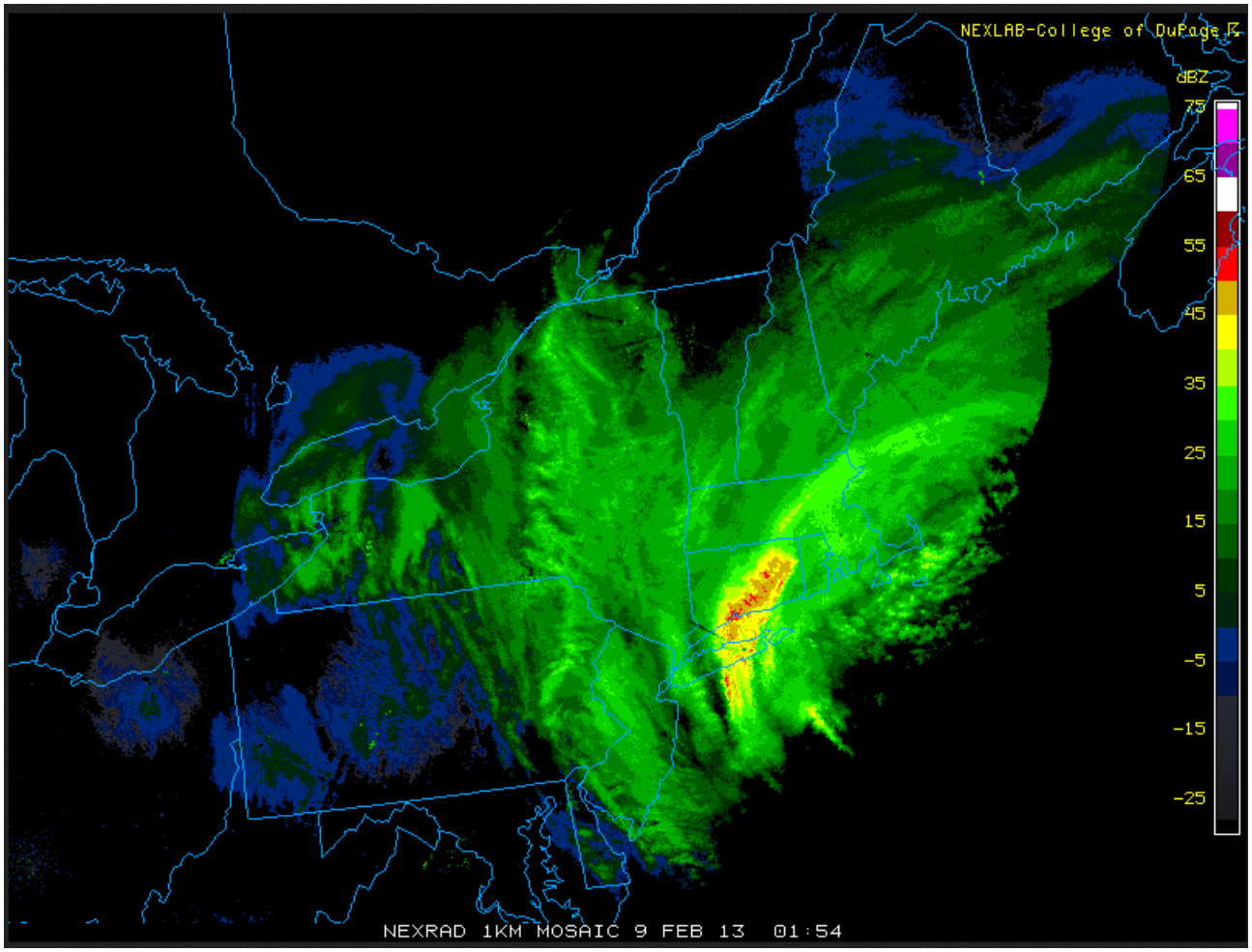


Figure 4. Radar image showing the intensity of the snowfall over Connecticut the evening of 8 February 2013.

The Ansonia Cooperative site had the highest total of any NWS COOP or NWS Climate Site in the state during this event. There were four reports of storm total snowfall in excess of the ANSC3 measurement, however, two of these reports were from the general public, and two were from Skywarn Spotters. The level of integrity of these two sources (public and Skywarn) does not meet the level required for an official climate record.

Evaluation of Existing Record

The NCDC-recognized state record for 24-hour snowfall of 30 inches occurred on 10 February 1969 at Falls Village (Figure 5). Since this value has already gone through extensive evaluation by NCDC, further evaluation of this record is unnecessary.

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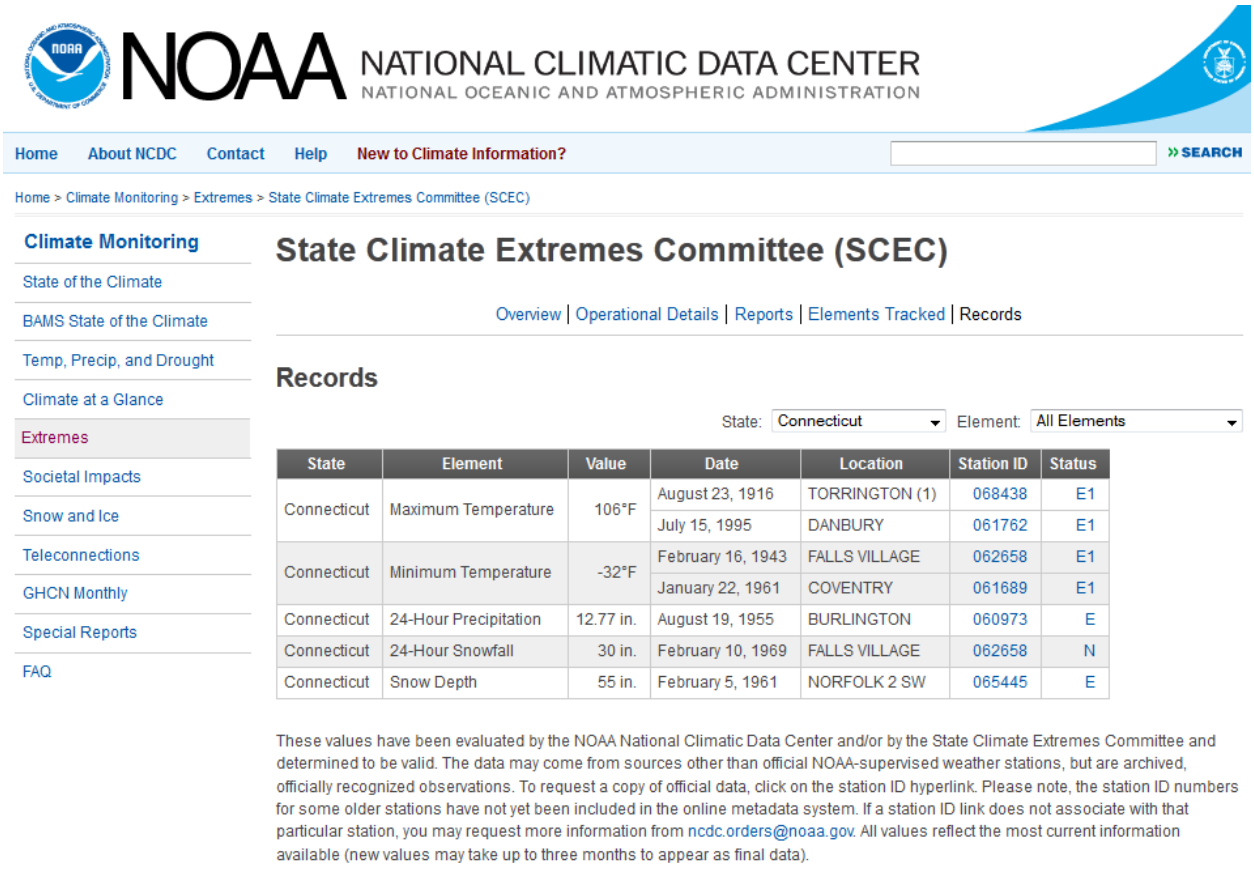

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State Climate Extremes Committee (SCEC)

Overview | Operational Details | Reports | Elements Tracked | Records

Records

State: Connecticut Element: All Elements

State	Element	Value	Date	Location	Station ID	Status
Connecticut	Maximum Temperature	106°F	August 23, 1916	TORRINGTON (1)	068438	E1
			July 15, 1995	DANBURY	061762	E1
Connecticut	Minimum Temperature	-32°F	February 16, 1943	FALLS VILLAGE	062658	E1
			January 22, 1961	COVENTRY	061689	E1
Connecticut	24-Hour Precipitation	12.77 in.	August 19, 1955	BURLINGTON	060973	E
Connecticut	24-Hour Snowfall	30 in.	February 10, 1969	FALLS VILLAGE	062658	N
Connecticut	Snow Depth	55 in.	February 5, 1961	NORFOLK 2 SW	065445	E

These values have been evaluated by the NOAA National Climatic Data Center and/or by the State Climate Extremes Committee and determined to be valid. The data may come from sources other than official NOAA-supervised weather stations, but are archived, officially recognized observations. To request a copy of official data, click on the station ID hyperlink. Please note, the station ID numbers for some older stations have not yet been included in the online metadata system. If a station ID link does not associate with that particular station, you may request more information from ncdc.orders@noaa.gov. All values reflect the most current information available (new values may take up to three months to appear as final data).

Figure 5. Connecticut 24-hour snowfall record as obtained from the NCDC website on 25 April 2013.

Conclusion

The SCEC voted unanimously (4-0) to recognize the 36 inch 24-hour snowfall total from Ansonia, Connecticut on 8-9 February 2013 as the state record for 24-hour snowfall in Connecticut.

Acknowledgements

NCDC would like to express its thanks for the excellent work from the New York NWS office in collecting data and providing a comprehensive and compelling summary.

State Climate Extremes ad hoc Committee Members:

James Connolly, General Forecaster, National Weather Service, New York, NY [voting]
Kevin Murray, Public Information Officer, NWS Eastern Region Headquarters [voting]
Keith L. Eggleston, Regional Climatologist, Northeast Regional Climate Center [voting]
Karin Gleason, Climatologist, Climate Monitoring Branch, National Climatic Data Center [voting]
Bryant Korzeniewski, Ingest and Analysis Branch, National Climatic Data Center

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Appendix A

Preliminary storm total snowfall values for Connecticut. Highlighted values are equal to or greater than the previously established 24-hour snowfall record of 30 inches:

**********STORM TOTAL SNOWFALL**********

LOCATION	STORM TOTAL SNOWFALL /INCHES/	TIME/DATE OF MEASUREMENT	COMMENTS
CONNECTICUT			
...FAIRFIELD COUNTY...			
FAIRFIELD	35.0	1000 AM 2/09	PUBLIC
STRATFORD	33.0	1030 AM 2/09	PUBLIC
MONROE	30.0	900 AM 2/09	SKYWARN SPOTTER
BRIDGEPORT	30.0	658 AM 2/09	COOP OBSERVER
SHELTON	26.5	700 AM 2/09	PUBLIC
WESTON	26.5	800 AM 2/09	SKYWARN SPOTTER
WESTPORT	24.5	645 AM 2/09	PUBLIC
GREENWICH	22.5	900 AM 2/09	PUBLIC
DARIEN	22.1	500 AM 2/09	PUBLIC
NORWALK	22.0	730 AM 2/09	PUBLIC
ROXBURY	22.0	800 AM 2/09	SKYWARN SPOTTER
NEW CANAAN	22.0	600 AM 2/09	CT DOT
DANBURY	21.5	1200 PM 2/09	CT DOT
STAMFORD	19.0	1100 AM 2/09	PUBLIC
NEWTOWN	17.1	1000 AM 2/09	PUBLIC
BETHEL	16.0	800 AM 2/09	SKYWARN SPOTTER
RIDGEFIELD	12.0	800 AM 2/09	PUBLIC
...MIDDLESEX COUNTY...			
EAST HADDAM	35.5	845 AM 2/09	PUBLIC
OLD SAYBROOK	30.0	1200 PM 2/09	CT DOT
CLINTON	27.5	800 AM 2/09	PUBLIC
HADDAM	27.0	1200 PM 2/09	CT DOT
HIGGANUM	24.0	700 AM 2/09	AMATEUR RADIO
CROMWELL	23.0	700 AM 2/09	AMATEUR RADIO
MIDDLETOWN	12.0	1200 PM 2/09	SKYWARN SPOTTER
...NEW HAVEN COUNTY...			
HAMDEN	40.0	100 PM 2/09	PUBLIC
MILFORD	38.0	615 AM 2/09	PUBLIC
CLINTONVILLE	37.0	1040 AM 2/09	SKYWARN SPOTTER
OXFORD	36.2	600 AM 2/09	SKYWARN SPOTTER
NORTH BRANFORD	36.0	1100 AM 2/09	PUBLIC
MERIDEN	36.0	200 PM 2/09	PUBLIC
YALESVILLE	35.0	909 AM 2/09	SKYWARN SPOTTER
WALLINGFORD	35.0	700 AM 2/09	PUBLIC
NEW HAVEN	34.3	600 AM 2/09	CT DOT
WEST HAVEN	34.0	1040 AM 2/09	PUBLIC
NORTHFORD	33.5	950 AM 2/09	SKYWARN SPOTTER
WOLCOTT	33.0	457 AM 2/09	SKYWARN SPOTTER
EAST HAVEN	33.0	1005 AM 2/09	SKYWARN SPOTTER
GUILFORD	33.0	1113 AM 2/09	BROADCAST MEDIA
NORTH GUILFORD	32.0	900 AM 2/09	SKYWARN SPOTTER
WATERBURY	32.0	900 AM 2/09	PUBLIC
MADISON	32.0	321 AM 2/09	PUBLIC

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Appendix A-1 Continued

NAUGATUCK	30.0	600 AM 2/09	PUBLIC
NORTH HAVEN	29.0	950 AM 2/09	SKYWARN SPOTTER
BRANFORD	28.0	700 AM 2/09	PUBLIC
SOUTHBURY	26.3	1030 AM 2/09	SKYWARN SPOTTER
NORTH BRANDFORD	24.0	1230 AM 2/09	PUBLIC
BEACON FALLS	21.0	1200 PM 2/09	CT DOT
...NEW LONDON COUNTY...			
COLCHESTER	31.0	1200 PM 2/09	CT DOT
GILMAN	27.0	600 AM 2/09	PUBLIC
NORWICH	25.0	600 AM 2/09	CT DOT
LISBON	24.0	1158 AM 2/09	SKYWARN SPOTTER
GALES FERRY	24.0	1045 AM 2/09	SKYWARN SPOTTER
OLD LYME	23.6	1200 PM 2/09	PUBLIC
LEDYARD CENTER	22.0	1045 AM 2/09	SKYWARN SPOTTER
MYSTIC SEAPORT	21.0	1100 AM 2/09	NWS EMPLOYEE
STONINGTON	15.0	900 AM 2/09	SKYWARN SPOTTER
...HARTFORD COUNTY...			
GLASTONBURY	33.5	326 PM 2/09	GENERAL PUBLIC
MANCHESTER	32.0	1030 AM 2/09	TRAINED SPOTTER
WEATOGUE	31.0	1012 AM 2/09	HAM RADIO
NEWINGTON	30.0	724 PM 2/09	TRAINED SPOTTER
FARMINGTON	29.0	918 AM 2/09	HAM RADIO
GRANBY	29.0	938 AM 2/09	RETIRED NWS EMPLOYEE
SOUTH GLASTONBURY	29.0	1255 PM 2/09	TRAINED SPOTTER
BURLINGTON	27.5	902 AM 2/09	TRAINED SPOTTER
HARTFORD	27.0	929 AM 2/09	HAM RADIO
CANTON	26.0	956 AM 2/09	TRAINED SPOTTER
NORTH GRANBY	25.0	610 AM 2/09	TRAINED SPOTTER
AVON	25.0	643 AM 2/09	NONE
BRISTOL	24.0	908 AM 2/09	TRAINED SPOTTER
SIMSBURY	24.0	618 AM 2/09	HAM RADIO
COLLINSVILLE	23.5	806 AM 2/09	TRAINED SPOTTER
WINDSOR	23.0	700 AM 2/09	COCORAHS
SOUTH WINDSOR	23.0	1237 PM 2/09	TRAINED SPOTTER
WINDSOR LOCKS	22.3	737 AM 2/09	BRADLEY AIRPORT
ASHFORD	22.0	931 AM 2/09	HAM RADIO
EAST HARTFORD	20.0	621 AM 2/09	HAM RADIO
ENFIELD	20.0	620 AM 2/09	HAM RADIO
...TOLLAND COUNTY...			
COVENTRY	32.5	1143 AM 2/09	TRAINED SPOTTER
STAFFORDVILLE	31.4	100 PM 2/09	CO-OP OBSERVER
TOLLAND	30.5	914 AM 2/09	GENERAL PUBLIC
MANSFIELD DEPOT	30.0	600 PM 2/09	HAM RADIO
STAFFORD SPRINGS	26.1	1237 PM 2/09	TRAINED SPOTTER
SOMERS	25.5	646 AM 2/09	TRAINED SPOTTER
VERNON	25.0	402 AM 2/09	HAM RADIO
...WINDHAM COUNTY...			
EAST KILLINGLY	26.0	1105 AM 2/09	TRAINED SPOTTER
WOODSTOCK	26.0	1026 AM 2/09	TRAINED SPOTTER
THOMPSON	25.5	1008 AM 2/09	TRAINED SPOTTER
HAMPTON	25.0	829 AM 2/09	CO-OP OBSERVER
ASHFORD	24.0	828 AM 2/09	GENERAL PUBLIC
MOOSUP	24.0	922 AM 2/09	GENERAL PUBLIC
DANIELSON	22.5	933 AM 2/09	HAM RADIO
POMFRET CENTER	22.0	1114 AM 2/09	TRAINED SPOTTER
...LITCHFIELD COUNTY...			

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NEW HARTFORD	33.0	1044 AM 2/09	SPOTTER
BAKERSVILLE	28.0	700 AM 2/09	CO-OP OBSERVER
TORRINGTON	28.0	834 AM 2/09	FACEBOOK
WINSTED	25.0	818 AM 2/09	SPOTTER
NEW PRESTON	25.0	830 AM 2/09	PUBLIC
THOMASTON	23.0	600 AM 2/09	CT DOT
HARWINTON	23.0	952 AM 2/09	AMATEUR RADIO
WINCHESTER CENTER	22.5	600 AM 2/09	DEPT OF HIGHWAYS
ROXBURY	22.0	952 AM 2/09	AMATEUR RADIO
NORFOLK	17.2	800 AM 2/09	CO-OP OBSERVER
LITCHFIELD	16.0	600 AM 2/09	CT DOT
CORNWALL	12.0	951 AM 2/09	AMATEUR RADIO
NORTH CANAAN	11.0	600 AM 2/09	CT DOT

Appendix B

B-91 form indicating the daily snowfall amounts for the month of February 2013 in Ansonia, CT (060128):

STATION (*Climatological*): Ansonia 1 NE — (*River Station, if different*) — MONTH: Feb 2013
STATE: CT — COUNTY: NEW HAVEN — RIVER:
TIME (*local*) OF OBSERVATION: 07:00 — RIVER TEMPERATURE: — RIVER PRECIPITATION: 07:00 — STANDARD TIME IN USE:
TYPE OF RIVER GAGE: — ELEVATION OF RIVER GAGE ZERO: — FLOOD STAGE: — NORMAL POOL STAGE:

WS FORM B-91 (03-09)
U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL WEATHER SERVICE

RECORD OF RIVER AND CLIMATOLOGICAL OBSERVATIONS

This form was dynamically generated from WeatherCoder 3 data on 2013-04-18 at 06:36 PM EDT.

DATE	TEMPERATURE 24 HRS ENDING AT OBSERVATION MAX	MIN	AT OBSN	PRECIPITATION 24 HR AMOUNTS Rain, melted snow, etc. (in and hundredths)	Snow, ice pellets, hail (ins.and tenths)	AT OB Snow, ice pellets, hail ice on ground (in)	Draw a straight line (------) through hours precipitation was observed, and a wavy line (~~~~~) through hours precipitation probably occurred unobserved A.M. 1 2 3 4 5 6 7 8 9 10 11 NOON P.M. 1 2 3 4 5 6 7 8 9 10 11	WEATHER (Observation Day) Mark 'X' for all types occurring each day: Fog	Ice pellets	Glaze	Thunder	Hail	Damaging winds	Time of occurrence if different from above	RIVER STAGE: Condition	Gage reading at ___ AM	Tendency	REMARKS (SPECIAL OBSERVATIONS, ETC.)
1	53	24	26	0.00	0.0	0											
2	31	15	21	0.00	0.0	0											
3	30	17	19	0.00	T	T											
4	27	18	26	0.00	T	T											
5	29	19	22	0.00	0.0	0											
6	28	22	25	0.03	0.0	0											
7	37	20	21	0.00	0.0	0											
8	31	20	28	0.00	0.0	0											Snow flurries started shortly after 07:00.
9	31	21	22	3.24	36.0	36											Approximately 3 feet of snow with snow drifts of o[..]
10	23	3	8	0.00	0.0	36											
11	33	8	22	0.00	0.0	34											
12	38	22	34	0.46	0.0	32											Thick fog. Visibility less than 1/10 th mile.
13	43	22	24	0.00	0.0	30											
14	41	23	26	T	0.0	28											
15	43	25	27	0.00	0.0	26											
16	47	25	31	0.00	0.0	24											
17	39	22	23	0.00	0.0	24											
18	29	13	14	0.00	0.0	23											
19	32	14	22	0.00	0.0	22											
20	41	19	31	0.00	0.0	21											
21	32	20	22	0.00	0.0	21											
22	33	18	19	0.00	0.0	19											
23	39	18	34	0.00	0.0	18											
24	37	33	36	0.78	0.0	18											
25	36	27	32	0.00	0.0	17											
26	43	26	27	0.00	0.0	16											
27	42	27	39	1.13	0.0	15											
28	43	31	32	1.25	0.0	13											
29																	
30																	
31																	
	36.11	20.43	SUM	6.89	36.0		CHECK BAR (for wire weight) NORMAL CHECK BAR										
	CONDITION OF RIVER AT GAGE						READING / DATE										

A. Obstructed by rough ice
B. Frozen, but open at gage
C. Upper surface smooth ice
D. Ice gorge above gage
E. Ice gorge below gage
F. Shore ice
G. Floating ice
H. Pool stage

OBSERVER: BIRMINGHAM UTILITIES
SUPERVISING OFFICE: OKX NEW YORK CITY
STATION INDEX NO.: 06-0128-2